

Features

- **Optical Line Termination (OLT) in a Node allows more efficient use of PON optical link budget and lower cost ONU devices**
- **Supports residential and commercial business service applications with bandwidth capacity of 1000 Mbps per module**
- **Each Node PON access interface supports up to 32 ONUs**
- **Up to four GE4132M modules may be daisy-chained for transport of data to / from Headend**
- **Supports various data rate tiers (via DOCSIS™ compatible provisioning system or Aurora's Opti-Trace EMS)**
- **Highly flexible, easily configurable support for backhaul transmission at 1310nm, 1550nm, or CWDM wavelengths with SFP transceivers**

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Gigabit Ethernet Node PON™ Module



The GE4132M GbE Node PON module is designed to work in any Aurora Networks NC4000 series Node. It enables the availability of GEAPON functionality from a standard cable TV HFC node. With this module, cable operators can cost-effectively and selectively migrate an installed HFC network to a standards-based GEAPON FTTH network – if and when it becomes justified by bandwidth demand and potential revenue growth. Aurora's Node GEAPON solution was specifically designed for MSOs, with special consideration for their installed networks.

The GE4132M OLT enables delivery of 1000 Mbps Ethernet over fiber, interfacing with standard GEAPON Optical Network Units (ONUs). The Passive Optical Network (PON) supports a point-to-multipoint fiber architecture with simple optical splitters. On the network side, the GE4132M is fully compatible with a standard Gigabit Ethernet transport that has been implemented with SFP transceivers (installed in the Ethernet 1 optical port). A second SFP facility (Ethernet 2 port) is available to support daisy chaining of the Ethernet backhaul.

GE4132M

Product Specifications

Physical:

- Dimensions: 4.5" L x 4.0" W x 2.0" H (11.4 cm x 10.2 cm x 5.1 cm)
- Weight: 1.4 lbs (0.64 kg)

Environmental:

- Operating temperature range: -40° to +85°C (-40° to 185°F)
- Storage temperature range: -40° to +85°C (-40° to 185°F)
- Humidity: 5% to 95% non-condensing

Power Requirements:

- Powering: 24 V_{DC} (625 mA)
- Power consumption: 15 W (including two SFPs at 0.7W each and 5.7W internal heater)

General:

- Hot plug-in/out

PON Port:

- Local PON optical interface connector: SC/APC Simplex (1490/1310 bi-di)
- TX
 - Bit rate: 1.25 Gbps
 - Transmit power, max: 7 dBm
 - Transmit power, min: 1 dBm
 - Return loss, max: 15 dB
- RX
 - Bit rate: 1.25 Gbps
 - Receive power, min: -26 dBm
 - Receiver input saturation: -9 dBm (damage threshold 2 dBm)

Network Copper Port:

The Ethernet 3 copper port facility provides means of backhauling (using Fiber on Demand™) when connected to an OE4130S Monitoring and Control Module.

- Port type: 10/100-BaseT (full duplex)
- Interface connector: RJ-45

Network Optical Ports:

The Ethernet 1 and Ethernet 2 optical ports facilities of the GE4132M can be populated with a variety of SFP (plug-in) transceivers depending on the network application. Please refer to the appropriate data sheets for the selected transceivers for detailed specifications. Following is a summary of available transceiver options (model numbers and brief descriptions) for these ports.

2.125 Gbps SFP Transceiver Options (for operation at 1.25 Gbps in the GE4132M)

- TR4000-PI (transmit at 1310nm for links up to 10 km)
- TR4040-PI (transmit at 1310nm for links up to 40 km)
- TR4540-0000-PI (transmit at 1550nm for links up to 40 km)
- TR4440B-xxxx-PI (transmit at CWDM wavelength of xxxx = 1270, 1290, . . . , 1350 or 1430, 1450, 1470, . . . , 1610 nm for links up to 40 km)
- Network optical interface connectors: LC Duplex on SFP
- Network ports optical transmission bit rate: 1.25 Gb/s

LED Indicators:

- Module ON (green)

GEAPON port:

- TX: Green ON = transmit OK
- RX: Green ON = receive signal present and at least one ONU is registered)

Network copper port (Ethernet 3):

- LINK/ACT: Green ON = link OK; Blinking = link activity
- 10/100: Green ON = 100M; OFF = 10M

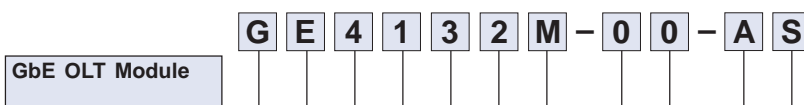
Network optical ports (Ethernet 1, Ethernet 2):

- TX: Green ON = link is up and in sync; OFF = bad or incompatible SFP
- RX: Green ON = signal good; OFF = LOS asserted or bad SFP

Provisioning and Monitoring:

- Provisioning: DOCSIS 1.0 compliant
- Monitoring and control: telnet, snmp, CLI, tftp
- Remote software upgrade: via tftp
- ONU support: up to 32 ONUs

Ordering Information



Transceiver Plug-in Modules

SFP modules must be ordered separately. Please refer to the above list of available transceivers and appropriate data sheets for specific complete model numbers and ordering information.



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